
*Office of the*
*Chief Information Officer,*

*Information Services Policy Board*

*and*

*Gartner Consulting*

# STRATEGIC INFORMATION TECHNOLOGY PLAN

## *Technical Architecture Roadmap Development Final Report*

January 7, 2002

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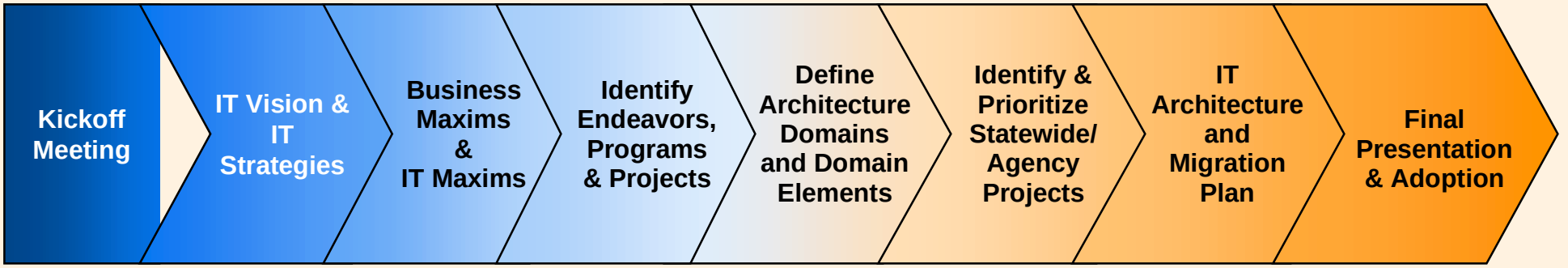
Adopted by the Information Services Policy Board (ISPB)
Office of the CIO — January 7, 2002

# Preface


***This document identifies the Information Technology vision, supporting strategies, and guiding principles to meet the State's current business needs and support long term strategies. Specific findings and recommendations relevant to establishing IT policy and/or standards are subject to appropriate review and approval under the authority of the Information Services Policy Board (ISPB).***

# Overview of the Process

***The State of Maine (the State) stakeholders and Gartner Consultants worked closely to develop a high level Enterprise Architecture framework and associated principles for the State by which Information Technology (IT) investments can be targeted.***




- Maxims Questionnaires
- Interviews
  - Governor
  - Commissioners
  - ATOs
  - Agency business managers.
  - Legislators

- IT Vision and IT Strategies Development Workshop
- Workshop to Validate and Verify the State IT Vision and Strategies

- Technical Architecture Data Collection
- Follow-up Interviews
- Technical Architecture Roadmap Development Workshop

- Project Prioritization Tool
- Agencies' IT Project Data Gathering
- IT Project Prioritization

- Develop IT Architecture & Migration Plan
- Final Report
- Presentation and adoption by ISPB

## Stakeholders that participated in this engagement:

- Office of the Governor
- Department of Administrative & Financial Services
- Department of Agriculture
- Department of Conservation
- Department of Corrections
- Department of Defense, Veterans Affairs & Emergency Management
- Department of Economic & Community Development
- Department of Education
- Department of Environmental Protection
- Department of Human Services
- Department of Inland Fisheries & Wildlife
- Department of Labor
- Department of Marine Resources
- Department of Behavioral & Developmental Services
- Department of Professional & Financial Regulation
- Department of Public Safety
- Department of Transportation
- Workers' Compensation Board (WCB)
- Public Utilities Commission
- State Treasurer's Office
- Information Systems Managers Group
- State Planning Office
- Office of the Secretary of State
- Judicial Branch (IT)
- Legislative Branch (IT)
- Maine House of Representatives
- Maine State Senate
- Appropriations and Financial Affairs Committee
- InforME



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# Strategic IT Planning Through Maxims

## State's IT Vision

The State of Maine Information Technology vision is to use technology to be a recognized leader in delivering cost effective services desired by citizens, businesses and government organizations, while maximizing constituent participation in the government process.

## IT Strategies:

Strategy 1: Strive to deliver access to appropriate government (local, state, federal) services through a common portal structure.

Strategy 2: Continuously improve the delivery of services to our customers through strategic enterprise technology investments.

Strategy 3: Drive a business-smart IT organization and an IT-smart business operation.

Strategy 4: Expand data integration to enable collaboration between all constituents and to create synergies that can be leveraged.

Strategy 5: Strengthen our technology architecture to position Maine to take advantage of emerging trends.

Strategy 6: Recruit, retain and invest in a highly skilled workforce that responds quickly to the ever-changing technology world.

## Statewide Endeavors & Programs

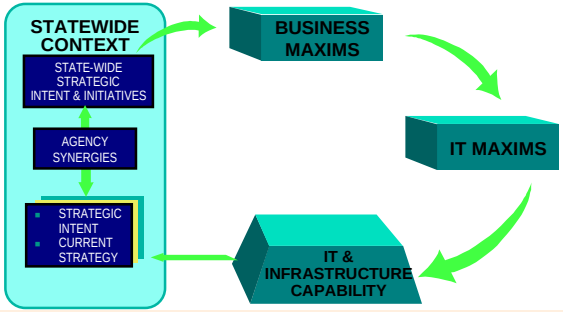
- Network
- HIPAA
- Accessibility
- E-Government
- Enterprise Directory Services
- Business Continuity Plan/ Disaster Recovery
- Enterprise Resource Planning (MFASIS System)
- Enterprise Application Integration (EAI)
- Geographic Information Systems (GIS)
- Records Management/Archives
- IT Employee Retention
- Network Services

*More...*

## Business Maxims:

- Streamline processes to improve efficiencies
- Meet constituent expectations for quality at reasonable cost while maintaining confidentiality
- Make the constituents' service selection as easy as possible
- Manage our knowledge base to maximize insight and re-use
- Maintain flexibility to respond to new service needs
- Maintain a high level of professional and technical expertise. Attract and retain high-caliber staff committed to our common vision of one State enterprise
- Identify and facilitate the sharing and movement of talented people and create an environment that maximizes intellectual productivity
- Leverage the synergies throughout the State and foster/implement culture of information sharing

*More...*




## State-wide Infrastructure Services:

- Coordinate wireless network development
- Plan and implement security, disaster planning and business recovery services for State-wide installations and applications
- Coordinate the identification and testing of new technologies for business purposes
- Support middleware linking systems on different platforms (e.g. XML standards, EDI)
- Perform IS project management
- Support multimedia operations and development (e.g., video-conferencing)
- Coordinate/ manage State-wide communication network services
- Coordinate/ manage State-wide messaging services (including e-mail)
- Provide State-wide intranet capability (e.g., information access, multiple system access)
- Manage, maintain, support of large scale data processing facilities

## IT Maxims:

- Acquire or develop applications in such a way as to facilitate user access by Web browser.
- Create easily navigable/user friendly web sites that are compliant with accessibility regulations.
- Implement a standardized State-wide IT architecture that considers the uniqueness of Agencies and is maintained to leverage similar technologies across the Agencies.
- Implement consistent and transparent technologies to ensure easy constituent entry points and access to data.
- Implement security policies and technologies to maintain confidentiality of constituent information.
- Incorporate transparency and consistency into data design across the State to provide our constituents with easily accessible data.
- Maintain a comprehensive data directory of the most commonly used elements (name, address, telephone #) as a foundation for object-oriented programming for large-scale development efforts and to promote rapid turnaround in smaller system development efforts.
- Maintain a reliable IT infrastructure with mechanisms to facilitate timely problem resolution in the event of an outage, congestion, or other problem.
- Promote availability of an integrated view of constituents' non-confidential information across the State.
- Purchase "off-the-shelf" applications if they provide cost-beneficial and required services instead of using custom development.
- Use IT to support business requirements and to achieve cost reduction through more effective and efficient use of IT resources.

*More...*





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# State of Maine IT Vision Statement


***"The State of Maine Information Technology vision is to use technology to be a recognized leader in delivering cost effective services desired by citizens, businesses and government organizations, while maximizing constituent participation in the government process."***



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# State of Maine IT Strategies


***The State of Maine will achieve the Information Technology vision by executing the following long-term strategies:***

**Strategy 1: Strive to deliver access to appropriate government (local, state, federal) services through a common portal structure.**

**Strategy 2: Continuously improve the delivery of services to our customers through strategic enterprise technology investments.**

**Strategy 3: Drive a business-smart IT organization and an IT-smart business operation.**

**Strategy 4: Expand data integration to enable collaboration between all constituents and to create synergies that can be leveraged.**

**Strategy 5: Strengthen our technology architecture to position Maine to take advantage of emerging trends.**

**Strategy 6: Recruit, retain and invest in a highly skilled workforce that responds quickly to the ever-changing technology world.**



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# Business Maxims (Guiding Principles) for the State

***From the questionnaires, interviews and industry best practices, the State stakeholders and Gartner Consulting identified the most important Business Maxims that support the State's IT strategies:***

| IT Strategies* 1 | 2 | 3 | 4 | 5 | 6 | Business Maxims |
|---|---|---|---|---|---|---|
| ✔ | ✔ | ✔ | ✔ | ✔ | ✔ | Streamline processes to improve efficiencies |
| ✔ | ✔ | ✔ | | | ✔ | Meet constituent expectations for quality at reasonable cost while maintaining confidentiality |
| ✔ | ✔ | | ✔ | | | Make the constituents' service selection as easy as possible |
| | | ✔ | | ✔ | ✔ | Manage our knowledge base to maximize insight and re-use |
| ✔ | ✔ | ✔ | ✔ | ✔ | ✔ | Maintain flexibility to respond to new service needs |
| | | ✔ | | | ✔ | Maintain a high level of professional and technical expertise. Attract and retain high-caliber staff committed to our common vision of one State enterprise |
| | | | | ✔ | ✔ | Identify and facilitate the sharing and movement of talented people and create an environment that maximizes intellectual productivity |
| | ✔ | ✔ | ✔ | | ✔ | Leverage the synergies throughout the State and foster/implement a culture of information sharing |
| ✔ | | | ✔ | | | Ensure that business processes are compliant with security and privacy requirements |
| ✔ | ✔ | | ✔ | ✔ | | Drive economies of scale through shared best practice |
| ✔ | ✔ | ✔ | ✔ | ✔ | | Drive rapid development of new services |
| ✔ | ✔ | | ✔ | ✔ | ✔ | Ensure that access to government services is available to all constituents |

**IT Strategy Definitions:**

1 - Portal/e-Gov
2 - Service Delivery
3 - Awareness/Leveraging IT
4 - Data Integration
5 - Emerging Technology
6 - Skilled Workforce



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# IT Maxims (Guiding Principles) for the State

***From the questionnaires, interviews and industry best practices the State/ Gartner Consulting identified the most important IT Maxims that support the Business Maxims and IT vision and strategies. The IT Maxims are categorized into the following groups: Security, IT Management (Management), Web, Applications, Data, and Infrastructure.***

## *Security*

- Implement security policies and technologies to maintain confidentiality of constituent information.
- Develop a secure, robust Internet infrastructure capable of initiating, confirming and executing all manner of business transactions.
- Implement a data architecture that will provide a uniform and secure mechanism for data acquisition, storage, retrieval and update.
- Maintain sufficient computer forensic expertise to combat specific threats and to investigate and prosecute specific criminal acts.
- Maintain sufficient backup and disaster recovery expertise to minimize the effect of catastrophic events on the information technology infrastructure.
- Establish business continuity plans to ensure reliable and secure service delivery.

## *Management*

- Use IT to support business requirements and to achieve cost reductions through more effective and efficient use of IT resources.
- Develop training programs and clear career paths for all IT staff, encouraging education on emerging technologies.
- Incorporate an IT knowledge sharing/transfer program across agencies that will reduce redundant effort, encourage cross-training of individuals, and exploit centers of expertise.
- Make IT a business-driven line activity, not a technology-driven activity.
- Make IT funding decisions based on value.
- Drive constant year-to-year operational productivity improvements through monitoring best-in-class IT benchmarks.
- Drive a business-smart IT organization and an IT-smart business operation.

## *Web*

- Implement systems to provide a foundation upon which web-based services can be added without major modifications.
- Create easily navigable/user friendly web sites that are compliant with accessibility regulations.
- Implement consistent and transparent technologies to ensure easy constituent entry points and access to data.
- Provide multiple channels for constituent access with a push towards the lower cost channels.
- Implement a desktop computer "tool box" that enables Agencies to easily collaborate on virtual system-wide teams without any specific knowledge of other team members' desktop environment.
- Maintain a messaging/e-mail infrastructure that facilitates our communication and collaboration with the world.
- Develop a secure, robust Internet infrastructure capable of initiating, confirming and executing all manner of business transactions to ensure current and future customer constituencies can do business with the State on the Internet.
- Exploit intranet technologies that enable employees to communicate, access reference data, follow up on open issues, order goods or services, and provide other intra-government services.



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# IT Maxims (Guiding Principles) for the State (Cont'd)

## *Applications*

- Implement systems to provide a foundation upon which web-based services can be added without major modifications.
- Allow sharing of functions and data between applications by bridging different technical platforms.
- Purchase "off-the-shelf" applications if they provide best of class, cost-beneficial and required services instead of using custom development.
- Acquire or develop applications in such a way as to facilitate user access by Web browser.
- Implement an application architecture that enables IT to quickly deliver and upgrade strategic computer applications. Proprietary frameworks should be avoided or contained.
- Application architecture should provide for the independent selection of a platform for application execution and database services.
- Maintain an applications and technology infrastructure that exploits an architecture that enables 24x7 technical and business operations.
- Demand near-term, business-focused results from development efforts.

## *Data*

- Incorporate transparency and consistency into data design across the State to provide our constituents with easily accessible data.
- Maintain a comprehensive data directory of the most commonly used elements (name, address, telephone #) as a foundation for object-oriented programming for large-scale development efforts and to promote rapid turnaround in smaller system development efforts.
- Promote availability of an integrated view of constituents' non-confidential information across the State.
- Promote a data architecture based upon relational database technology that is implemented to support access across multiple business units.
- Promote a data architecture that provides a uniform and secure mechanism for data acquisition, storage, retrieval and update.

## *Infrastructure*

- Implement a standardized State-wide IT architecture that considers the uniqueness of Agencies and is maintained to leverage similar technologies across the Agencies.
- Allow sharing of functions and data between applications by bridging different technical platforms.
- Implement a desktop computer "tool box" that enables Agencies to easily collaborate on virtual system-wide teams without any specific knowledge of other team members' desktop environment.
- Maintain a messaging/e-mail infrastructure that facilitates our communication and collaboration with the world.
- Support and work towards implementing a shared or common IT infrastructure where there is no strategic reason to justify differentiation.
- Ensure the voice, video and data network design and implementation is cost effective and scalable, and supportive of new applications.
- Develop a secure, robust Internet infrastructure capable of initiating, confirming and executing all manner of business transactions to ensure current and future customer constituencies can do business with the State on the Internet.
- Maintain an applications and technology infrastructure that exploits an architecture that enables 24x7 technical and business operations.
- Maintain a reliable IT infrastructure with mechanisms to facilitate timely problem resolution in the event of an outage, congestion, or other problem.
- Ensure the State's core infrastructure is fault tolerant and supports availability in excess of 99.99 percent.
- Drive both simplicity and flexibility throughout the technology environment.



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# Linking the State's Business and IT Maxims - Sample

***From a combination of the IT vision, IT strategies, business maxims, agency-provided IT maxims through the questionnaires, and industry best practices, Gartner derived IT maxims to support the State's business maxims:***

| Business Maxims | IT Category | Primary IT Maxims | IT Maxims Categories |
|---|---|---|---|
| • Streamline processes to improve efficiencies | Applications | • *Purchase "off-the-shelf" applications if they provide cost-beneficial and required services instead of using custom development.* | ✔ ***Applications*** |
| | Infrastructure | • *Implement a standardized State-wide IT architecture that considers the uniqueness of Agencies and is maintained to leverage similar technologies across the Agencies.* | ✔ ***Infrastructure*** |
| | Data | • Incorporate transparency and consistency into data design across the State to provide our constituents with easily accessible data. | |
| • Meet constituent expectations for quality at reasonable cost while maintaining confidentiality | Management | • *Use IT to support business requirements and to achieve cost reduction through more effective and efficient use of IT resources.* | ✔ ***Management*** |
| | Security | • *Implement security policies and technologies to maintain confidentiality of constituent information.* | ✔ ***Security*** |
| | Data | • *Maintain a comprehensive data directory of the most commonly used elements (name, address, telephone #) as a foundation for object-oriented programming for large-scale development efforts and to promote rapid turnaround in smaller system development efforts.* | |

***Note:*** *IT maxims that apply to more than one business maxim are italicized* ✔ Identifies a Primary IT Maxims Category ***Please see Appendices for details***



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# High-Level View of State Endeavors, Programs and Projects

***Based on the State IT Vision and IT Strategies, Gartner Consulting and the State stakeholders recommend the following endeavors, programs and projects:***

| IT Strategies Supported* 1 | 2 | 3 | 4 | 5 | 6 | | Rank | Owner | Endeavor | Program | Project* |
|---|---|---|---|---|---|---|---|---|---|---|---|
| ✔ | ✔ | | ✔ | ✔ | ✔ | Network | 1 | BIS | ✔ | | |
| | ✔ | ✔ | ✔ | | | Health Insurance Portability and Accountability Act (HIPAA) | 2 | CIO's Office | | ✔ | |
| ✔ | ✔ | ✔ | | ✔ | ✔ | Accessibility | 3 | CIO's Office | ✔ | | |
| ✔ | ✔ | ✔ | ✔ | ✔ | ✔ | E-Government | 4 | ISPB E-Gov | ✔ | | |
| ✔ | ✔ | ✔ | ✔ | ✔ | | Enterprise Directory Services | 5 | BIS | ✔ | | |
| ✔ | ✔ | ✔ | ✔ | ✔ | | Business Continuity Plan/Disaster Recovery (BCP/DR) | 6 | DDVEM/CIO | ✔ | | |
| | ✔ | ✔ | ✔ | | | Enterprise Resource Planning—ERP (MFASIS System) | 7 | DAFS | ✔ | | |
| ✔ | ✔ | ✔ | ✔ | | | Enterprise Application Integration (EAI) | 8 | ISPB/ISMG | ✔ | | |
| | ✔ | ✔ | | | | Geographic Information Systems (GIS) | 9 | GIS (Exec Council) | ✔ | | |
| | ✔ | ✔ | | ✔ | | Records Management/Archives | 10 | Sec of State/BIS | ✔ | | |
| ✔ | | ✔ | | ✔ | ✔ | Knowledge Management/Sharing | 11 | ISPB/CIO | ✔ | | |
| | ✔ | ✔ | | | ✔ | IT Employee Retention/Recruitment | 12 | CIO's Office | ✔ | | |
| | ✔ | | ✔ | ✔ | ✔ | Network Services (Video Conferencing, Chat, Voice mail, Telephone Conferencing) | 13 | BIS | ✔ ↔ | ✔ | |
| | ✔ | ✔ | | ✔ | ✔ | Regional IT Support (PC H/W and S/W support and maintenance) | 14 | ISPB/ISMG | | ✔ | |
| ✔ | ✔ | | ✔ | ✔ | | Integrated Development Environments (IDE) | 15 | ISPB/ISMG | | ✔ | |
| ✔ | ✔ | | | ✔ | | Wireless (Voice/Data) | 16 | BIS | | ✔ | |

**IT Strategy Definitions:**

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3 - Awareness/Leveraging IT
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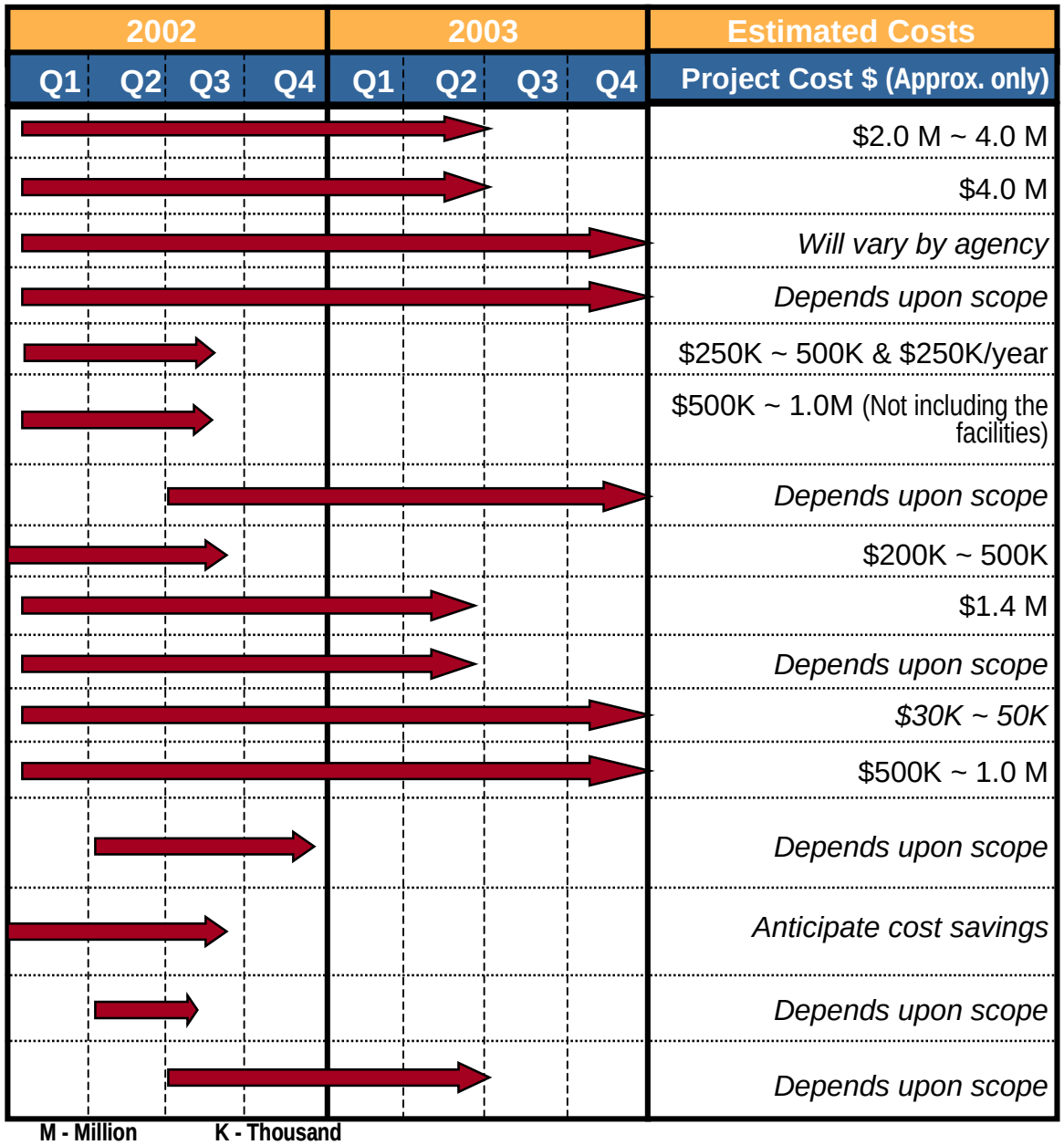
# High-Level Tactical and Strategic Migration Plan & Costs



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# Linking Agencies' IT Projects with the State's IT Strategies



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# Agency IT Projects Supporting Strategy 1

***Strategy I : Strive to deliver access to appropriate government (local, state, federal) services through a common portal structure.***

| Agency Name | Project Name* |
|---|---|
| Department of Administrative & Financial Services | Expand Internet/E-commerce presence for MRS |
| Department of Agriculture | Create New Web Templates for Department and Divisions |
| Department of Behavioral & Development Services | Enterprise Information System |
| Department of Conservation | Camp with ME web-enabled camping reservations |
| Department of Corrections | Automated Offender Management Information System |
| Department of Economic & Community Development | Business Answers on the WEB |
| Department of Economic & Community Development | Agency Resource E-commerce System |
| Department of Environmental Protection | XML Data Exchange Portal |
| Department of Human Services | Automated Client Eligibility System (ACES) |
| Department of Inland Fisheries and Wildlife | MOSES (Maine Online Sportsman's Electronic System) |
| Department of Labor | Internet-based Labor Exchange (CareerCenter) |
| Department of Marine Resources | On-line Licensing Renewal |
| Department of Professional & Financial Regulation | Professional Licensing Management System |
| Department of Transportation | Free 2000 (Project nearly complete) |



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# Agency IT Projects Supporting Strategy 2

***Strategy 2: Continuously improve the delivery of services to our customers through strategic enterprise technology investments.***

| Agency Name | Project Name |
|---|---|
| Department of Administrative & Financial Services | Tax Record Data Warehouse |
| Department of Behavioral & Development Services | Maine Claims Management System (MeCMS) |
| Department of Conservation | GOAT (Geographic Oriented Action Tracker) |
| Department of Economic & Community Development | CDBG Access Database |
| Department of Environmental Protection | TANKS (Tracking System for Underground Storage Tanks) |
| Department of Environmental Protection | Electronic Reporting from Wastewater Treatment Plants |
| Department of Human Services | Maine Claims Management System (MeCMS) |
| Department of Human Services | Health Alert Network (HAN) |
| Department of Public Safety | Integrated Criminal Justice |
| Department of Public Safety | Incident Management |
| Department of Public Safety | Maine Crash Reporting System |
| Department of Labor | Unemployment Compensation Benefits Rewrite |
| Department of Professional & Financial Regulation | Securities Registration (SECREGIS) |
| Department of Transportation | Document Imaging |
| Department of Transportation | Maintenance Accountability |
| Department of Transportation | Crew Payroll Personnel |
| Secretary of State | Uniform Commercial Code Liens and Corporate Annual Reports Filing |
| State Planning Office | State Planning Office Web Presence |
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# Agency IT Projects Supporting Strategy 3

***Strategy 3: Drive a business-smart IT organization and an IT-smart business operation.***

| Agency Name | Project Name |
|---|---|
| Department of Defense, Veterans & Emergency Management | Business Continuity Planning |
| Department of Education | Data Collection and Reporting System |
| Department of Human Services | Electronic Benefits Transfer |
| Department of Labor | Expanding Use of IVR system to Continued Claims |
| Secretary of State | Development of the new Motor Vehicle Information System |
| Secretary of State | Modifications to the Election Database Reapportionment |
| State Planning Office | Development Tracking System for GIS Project |
| Workers' Compensation Board | Minimize Data Entry Duplication |
| Workers' Compensation Board | Business System Re-Write |
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# Agency IT Projects Supporting Strategy 4

***Strategy 4: Expand data integration to enable collaboration between all constituents and to create synergies that can be leveraged.***

| Agency Name | Project Name |
|---|---|
| Department of Administrative & Financial Services | Combined Quarterly Reporting Wage and Withholding Tax Detail Electronic Filing |
| Department of Administrative & Financial Services | Complete adding all taxes to MATS |
| Department of Behavioral & Development Services | Hospital-based Information System (Echart) |
| Department of Behavioral & Development Services | Data Integration Project |
| Department of Environmental Protection | One Stop Integrated Licensing System (Phase I) |
| Department of Marine Resources | Biological Database |
| Department of Professional & Financial Regulation | Bureau of Insurance Complaint Tracking |
| Department of Transportation | Transportation Information for Decision Enhancement (TIDE) Phase II |
| Secretary of State | Unified Motor Carrier Database |
| | |
| | |
| | |
| | |

# Agency IT Projects Supporting Strategy 5

***Strategy 5: Strengthen our technology architecture to position Maine to take advantage of emerging trends.***

| Agency Name | Project Name |
|---|---|
| Department of Agriculture | Upgrade CAT3 wiring to CAT5E |
| Department of Agriculture | Migrate Network Operating Systems from Novell Netware 4.11 to 5.1 |
| Department of Education | Maine Distance Learning (Asynchronous Transfer Mode (ATM) Network) |
| Department of Human Services | Enterprise Network Infrastructure |
| Department of Inland Fisheries and Wildlife | Technical Infrastructure Upgrade |
| Department of Inland Fisheries and Wildlife | Voice Radio & Mobile Data Communications |
| Department of Public Safety | Technical Infrastructure Upgrade |
| Department of Labor | WIN-202 |
| Department of Marine Resources | Voice Radio & Mobile Data Communications |
| Department of Public Safety | Statewide Radio Network Project |
| State Planning Office | Network Operating System Migration |
| State Planning Office | Upgrade CAT3 Wiring to CAT5E |
| | |



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# Agency IT Projects Supporting Strategy 6

***Strategy 6: Recruit, retain and invest in a highly skilled workforce that responds quickly to the ever-changing technology world.***

| Agency Name | Project Name |
|---|---|
| Department of Agriculture | Desktop Software Refresh |
| Department of Agriculture | Hardware Refresh |
| Department of Education | Maine Learning Technology Endowment |
| Department of Education | Open e-Learning System |
| Department of Environmental Protection | Migration to Windows 2000 |
| Department of Inland Fisheries and Wildlife | Department Intranet |
| Department of Marine Resources | Internet 2 & Video Conferencing |
| Department of Professional & Financial Regulation | Desktop Software Refreshment |
| Department of Professional & Financial Regulation | Local Area Network Infrastructure Upgrade |
| State Planning Office | Hardware Refresh |
| Workers Compensation Board | Agency Equipment Refresh |
| | |
| | |



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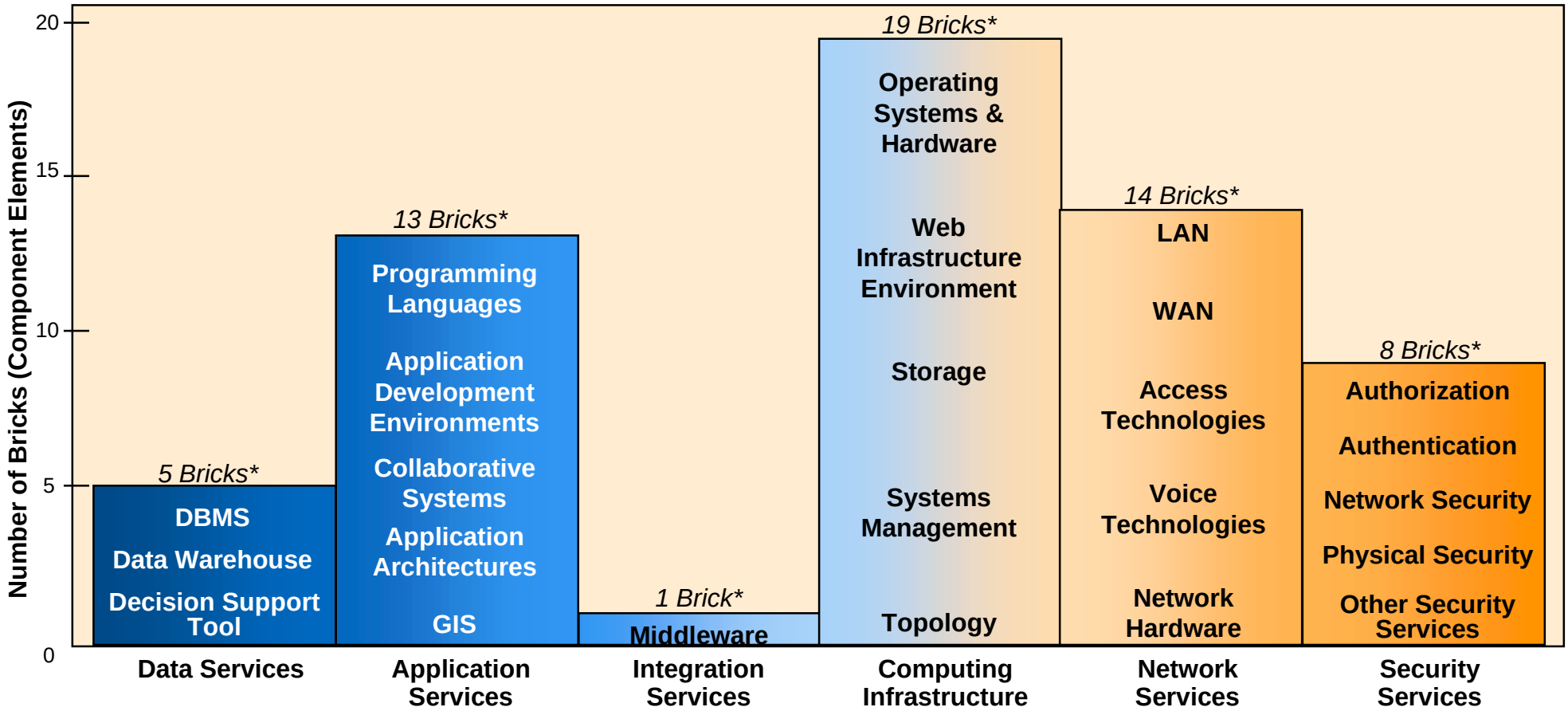
# The State's Technical Architecture Bricks Map

***We began by breaking down the Statewide enterprise architecture into a series of architecture components. The following graph illustrates the architecture components, namely: Data Services, Application Services, Integration Services, Computing Infrastructure, Network Services and Security Services.***




*** Please see Appendices for "Bricks" details.**



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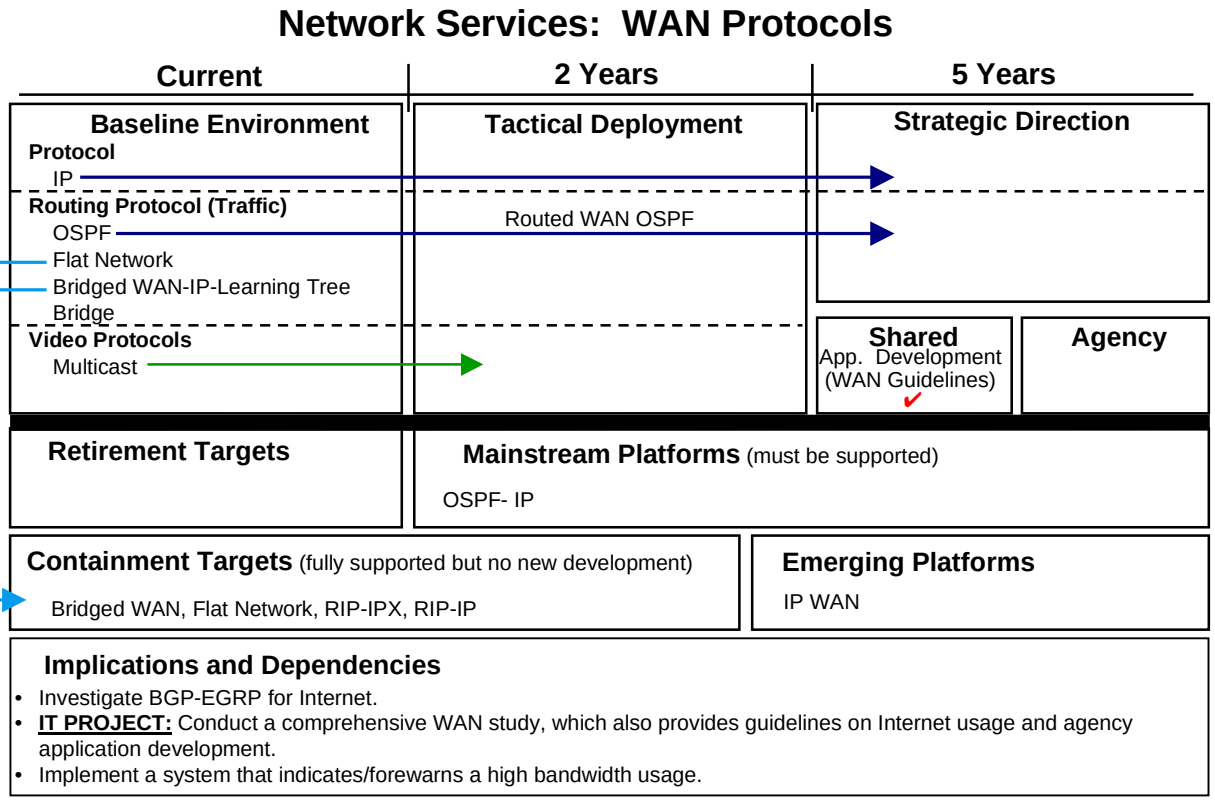
# The "Brick" Methodology for Architecture Specification

***Gartner Consultants and the State stakeholders then broke down each architecture component into a series of discrete elements, or "bricks." Each technology element (and process element where appropriate) is discussed based on industry status and outlook. New technologies will be introduced and aging technologies will be retired, based on industry direction and the State's business needs.***




**Baseline**: The current technology or process element in use by an organization.

**Tactical**: Technology(ies) that the State may use in the near term, tactical time frame, now to two years. Currently available products needed to meet existing business needs are identified here.

**Strategic**: Technologies that the State envisions using in the future that provide strategic advantage. Usually anticipated marketplace products are identified here.



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# Recommendations for the Technical Domains



***Application Services***

***Application services areas consist of server and client side programming languages, development, reporting tools, email and messaging, as well as the application server and middle ware required to operate them.***

***Findings***

The ISPB, ISMG and the agencies have done a good job of containing development and deployment technologies to a small set of tools that are used appropriately for their purpose.

***Summary Recommendations***

- Prepare for Java implementation and support. A number of different forces will push the State towards Java. e-Gov applications, availability of independent software vendor (ISV) solutions to integrate into e-Gov solutions and the skills new staff will have coming out of school.
- Select a single integrated development environment (IDE) and associated tools including source code control tools, profiling and repository tools.
- Establish application integration/middleware architecture. This will become an important component across agencies as the necessity of common services and common data become more important.
- Continue with plans to retire older mail services and focus on Exchange as the strategic direction.

***30, 60, 90 Day Action Items:***

1. Establish a selection committee of State architects, including representation from the Purchases Division, to review new application tools for e-Government.
2. Develop language for Application Development RFP's that require 3rd party developers to comply with State application development technology standards.

# Recommendations for the Technical Domains


***Data Services***

***Data services includes all database technologies and database related technologies. Related technologies include reporting tools, access methods, business intelligence reporting and general purpose reporting tools.***

***Findings***

Mainstream database technologies currently used within the State include Oracle, Access and some use of DB2 and Progress. Use of reporting and query tools is disparate between agencies. MS Access is widely used by agencies to develop applications that are agency-specific and used by small numbers of personnel.

***Summary Recommendations***

- Continue the use of Oracle and PL SQL for large development with DB2 as an alternative.
- Use caution when using MS Access for applications that may need to be used by several users simultaneously. Preference for small applications development should be Progress or Oracle.
- Settle on one or two general purpose reporting tools that can be used across all agencies.
- Plan for the future use of XML databases. XML database technology will become more important as more data is exchanged using XML standards. EAI will also drive the importance of XML data bases.
- Identify and start using web analytic products. Web analytics will play an increasingly important role in monitoring and determining the effectiveness of e-Gov and general Internet services.

***30,60, 90 day Action Items***

1. Establish an architecture group, including representation from the Purchases Division, within 60 days to select reporting tool and web analytic product.
2. Work with Purchasing to expand utilization of the Oracle licensing model under the New England Consortium.
3. Identify other common software license requirements (e.g., DB2, Progress, PL SQL) within 60 days; establish working group with Purchasing in 90 days.



Adopted by the Information Services Policy Board (ISPB)
Office of the CIO — January 7, 2002

# Recommendations for the Technical Domains


***Computing Infrastructure***

***Computing infrastructure includes mainframe and desktop applications and operating systems, network operating systems, servers (directory, file, web), storage and application topologies.***

***Findings***

Desktop operating system and desktop application technology throughout the State focuses on Microsoft products. Microsoft versions are quite disparate. Well funded agencies have converted to w2k, other agencies continue to use W95/W98.

***Summary Recommendations***

- Shift application topologies toward 3-tier. All strategic projects should use 3-tier architectures.
- Transition all agencies to Windows 2000 in order to be compatible with EAI and to improve security.
- Implement active directory as the strategic directory server for the State. Use of Novell NDS will be contained then subsequently retired.
- Implement a standardized exchange configuration for all agencies. Standardized configuration includes anti-virus protection and security settings.
- Establish disaster recovery procedures as required for critical sites. This should be incorporated as part of a business continuity planning study.

**30,60, 90 day Action Items:**

1. Establish a Windows 2000 migration plan for all State agencies. Plan required in 60 days.
2. Evaluate the stability and reliability of the Exchange environment and institute a program to improve the capacity and reliability of the email environment. Plan required in 30 days.

# Recommendations for the Technical Domains

Application Services
Data Services
Computing Infrastructure
✔ Network Services
Security Services
Management Architecture

***Network Services***

***Network services includes LAN and WAN protocols, topologies, wiring, security monitoring and management.***

***Findings***

The importance of network services has increased tremendously over the last 5 years, leading to some growing pains. This trend will continue for the foreseeable future. Network security projects are currently being implemented as a series of tactical projects. Security will become a major driver of network policies, design and technology. The current network topology needs improvement to meet the current State agencies' needs.

***Summary Recommendations***

- Make efficient use of the bandwidth and the personnel who manage and maintain the network. The current WAN is based upon a single flat network address space with heavy filtering to control broadcast traffic.
- Establish a common management approach, including tools and escalation processes. The current LAN configurations are managed locally with differing levels of personnel and training.
- Proceed with the Dynamic Host Configuration Protocol (DHCP) project and routing project currently underway, as they are vital to improving manageability, robustness and security. These projects are prerequisite to all of the endeavors and programs identified.
- Develop and implement a network security strategy for the State.

***30, 60, 90 Day Action Items:***

1. Develop a network topology that provides each agency with guaranteed bandwidth to the State network backbone. Develop a common State network backbone. Plan required in 30 days; funding model adopted in 90 days.
2. Adopt a subnetted IP address space based upon DHCP and secure Domain Name Server (DNS). Plan required in 60 days that identifies the IP address space for the backbone and each agency, and provides a plan to complete the re-architecting of the network within 6 months.



Adopted by the Information Services Policy Board (ISPB)
Office of the CIO — January 7, 2002

# Recommendations for the Technical Domains



## *Security Services*

***Security services includes authentication and authorization of State agencies and personnel, vendors and citizens of the State. Security services also includes integrity, e.g., protection from malicious code and viruses, non-repudiation and privacy.***

### *Findings*

Security has focused primarily on access control to servers using ACL (Access control lists, user ID and passwords). Agencies will work proactively to protect against unauthorized access from other agencies. Virus protection is not uniform across all agencies desktops. Privacy is being addressed in HIPAA programs but there are no uniform privacy rules for web based applications. The State has no common approach to content management of its web sites. There has been discussion and preliminary investigations of digital certificates and digital signatures. There is no current mandated requirement to support digital identification.

### Summary Recommendations

- Within each agency network, establish a firewall between its network and the State backbone. These firewalls should be configured and managed centrally.
- Formally designate a security officer who is responsible for the development of State security policies that apply to all agencies. Each agency should also have a designated security officer.
- Assign a security classification, e.g., public, confidential, secret, to all applications, databases, and computing infrastructure. Resources should have protection that is appropriate to its classification.
- Establish a standard security configuration for all servers and desktops deployed within the State.
- Develop a common approach to identifying and authenticating users.
- Select a common web content management scheme.

### *30, 60, 90 Day Action Items:*

1. Develop a security plan for the network to include, firewalls, intrusion detection, Virtual Private Network (VPN) for remote sites and dial in users, malicious code detection, and standard OS default configurations. Plans required within 60 days, desktop including virus protection, and 90 days for standard servers.
2. Deploy virus protection and intrusion detection on all mail servers and servers exposed to the internet. Determine servers within 30 days and select products within 60 days; complete test deployments in 90 days.
3. Evaluate web content management and publishing approaches and select a common approach for all agencies. Complete evaluation in 90 days.
4. Determine the requirements for Statewide Identity Management including certificates and signatures. Develop requirements within 90 days, along with requirements for legislative actions, and pilot identity management programs.



Adopted by the Information Services Policy Board (ISPB)
Office of the CIO — January 7, 2002

# Recommendations for the Technical Domains

Application Services
Data Services
Computing Infrastructure
Network Services
Security Services
✔ Management Architecture

***Management Architecture***

***Management architecture covers the processes and the roles and responsibilities of the management services that are required to effectively plan and manage a multi-agency State government.***

***Findings***

The legislation establishing the office of the CIO comes at a time when the requirement for collaborative, cross-agency services is becoming, and will continue to become increasingly important. This is driving e-Gov initiatives, common IT infrastructure and statewide IT-related business continuity planning.

***Summary Recommendations***

- Provide project management assistance/training on multi-agency or major strategic projects.
- Coordinate integrated services architecture for agencies.
- Provide IT-related business continuity planning.
- Provide project prioritization methodology for all agencies.
- Establish IT Architecture Processes including evergreening, project architecture review and asset management.
- Identify Agency and State IT Architects and their roles and responsibilities.
- The ISPB should review/approve the strategic IT plan annually.

***30,60, 90 day Action Items***

1. Review IT Architecture processes and roles for Legislature, ISPB, ISMG, Agency Business Officers and Office of the CIO.



Adopted by the Information Services Policy Board (ISPB)
Office of the CIO — January 7, 2002

# The Evergreening Process

***"Evergreening" is the process by which the IT architecture is changed, maintained, updated and enforced in order to maintain its long-term integrity. This process should be led by the Office of the CIO in conjunction with ISPB, ISMG and Agency Business Managers.***

The State's evergreening process consists of two steps:
Step I: Business and IT Alignment
Step II: Evergreening the IT architecture

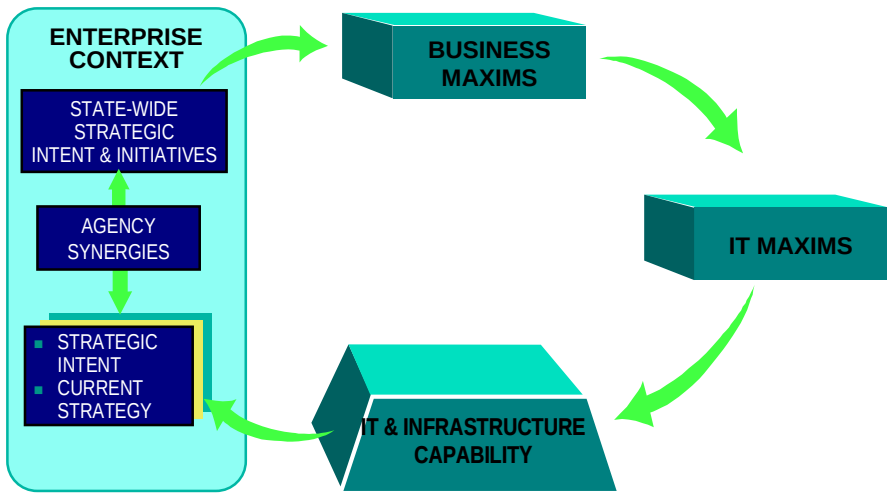
## Step I: Business and IT Alignment

During this engagement, the state stakeholders established the Statewide IT Vision, IT Strategies and Business and IT Maxims (guiding principles) through the Maxims questionnaires.

Agency Technology Officers (ATO) and their business counterparts should continue to meet on a periodic basis (semiannually initially then yearly) to review these strategies and Maxims and adjust as necessary to meet changing business/constituent needs. Any difference between the current state and what is required will direct IT to effectively identify and scope infrastructure needs and/or upgrades.

Revision to the plan will be reviewed/approved annually by the ISPB.

**Maxims Model**



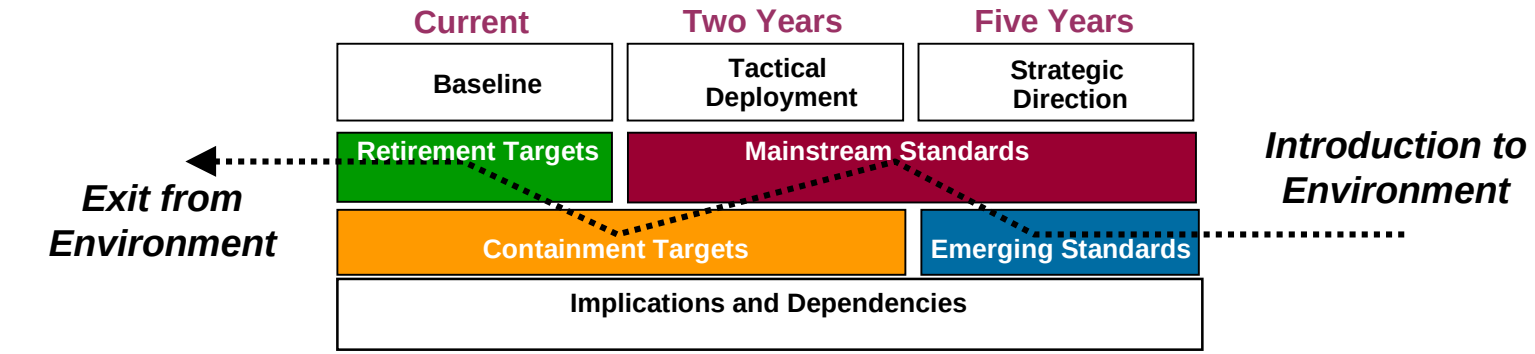


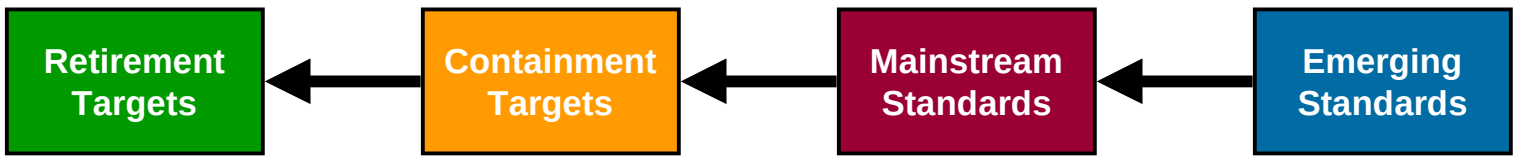

Adopted by the Information Services Policy Board (ISPB)
Office of the CIO — January 7, 2002

# The Evergreening Process (Cont'd)

## Step II: Evergreening the IT Architecture

Technology standards must be updated (i.e., made "evergreen") regularly (e.g., annually). An IT architecture must allow a variety of alternative standards to apply to different types of work.




- Technology is targeted for deinvestment during the architecture planning horizon
- A plan is in place, including resources, to retire the technology

- Provide full support of technology for existing systems only
- No new development on containment target technologies
- Limited (maintenance or current commitment) investment during the architecture planning horizon

- Provide full support of technology for new and existing systems
- Primary deployment/ investment technology or process for new systems or legacy system migration

- Identify new technologies
- Track product developments
- Follow market trends
- Identify market leaders
- Create vendor short list(s)
- Evaluate technologies
- Recommend new standards, based on technology availability and business need
- Develop adoption strategies



Adopted by the Information Services Policy Board (ISPB)
Office of the CIO — January 7, 2002

# The Evergreening Process (Cont'd)

***Bottom Line***
*Success means the architecture is being complied with. If not, the value of creating one is diminished and the credibility of the IT organization suffers.*

***Crucial Factor***
*If the business is not behind it, it will fall apart.*

# A Note of Caution...

***"IT architecture is a journey, not an event. The process that will be launched at the State is expected to generate significant long-term benefit to the business community; however, this process will take time and effort by all stakeholders before the results are felt by the Statewide enterprise. Management must remember that there are no silver bullets in IT. Business benefits will be incremental, not big bang."***

# Credits


***This project would not have been successful without the extraordinary efforts of the dedicated stakeholders...***

***Office of the Governor***
*Governor King*
*Jim Doyle*

***Department of Administrative & Financial Services***
*Commissioner Waldron*
*Harry Lanphear*
*Judy Beloff*
*Duncan Bond*
*Terry Brann*
*Don Hildebrand*
*Dick Hinkley*
*Tom Howker*
*Kevin Jones*
*Ed Karass*
*Mark Kemmerle*
*Jim King*
*Ellen Lee*
*Don Loud*
*Jack Nicholas*
*Dave Rodrigue*
*Lars Rydell*
*Mary Silva*
*Dennis Stevens*
*Dick Thompson*
*Sandra Tracy*
*Dan Walters*
*Carol Whitney*
*Bob Witham*
*Val Wood*

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*Peter Bouchard*
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*Janet Richards*

***Department of Conservation***
*Tom Driscoll*
*Will Harris*

***Department of Corrections***
*Denise Lord*
*Dave Packard*

***Department of Defense, Veterans Affairs & Emergency Management***
*Major Kevin McDougall*
*Phillip Street*

***Department of Economic & Community Development***
*Dorothea Socea*
*Peggy Schaffer*

***Department of Education***
*Ed Gomes*
*Jim Watkins*
*Gil Whitmore*

***Department of Environmental Protection***
*Dave Blocher*
*Craig Tenbroeck*

***Department of Human Services***
*Rudy Naples*
*Joe Radziszewski*

***InforME***
*Tamara Dukes*
*Todd Tolhurst*

***Department of Inland Fisheries & Wildlife***
*Danny Morris*
*Rick Record*

***Department of Labor***
*Sheldon Bird*
*Steve Campana*
*Arthur Davis*

***Department of Marine Resources***
*Bert Bilodeau*
*Pam Isham*

***Department of Behavioral & Developmental Services***
*Walter Lowell*
*Gary Sawyer*

***Department of Professional & Financial Regulation***
*Commissioner Longley*
*Howard Gray*
*Paul Sawyer*

***Department of Public Safety***
*Jeff Harmon*
*Wayne Gallant*

***Department of Transportation***
*Ray Halperin*
*Ed Lincoln*
*Greg McNeal*
*Greg Shea*

***Public Utilities Commission***
*Dennis Keschl*
*Ann Solmitz*

***Information Systems Managers Group/WCB***
*Paul Fortier*

***State Treasurer Office***
*Dale McCormick*

***State Planning Office***
*Jody Harris*
*Lisa Leahy*
*Tony VanDenbossche*

***Office of the Secretary of State***
*Dan Gwadowsky*
*Becky Wyke*

***Judicial Branch (IT)***
*Warren (Put) Armstrong*

***Legislative Branch (IT)***
*Paul Mayotte*

***House of Representatives***
*Representative Joseph Bruno*
*Representative Patrick Colwell*

***Appropriations and Financial Affairs Committee***
*Senator Jill Goldthwait*
*Representative Dick Nass*
*Representative Richard Rosen*

***…and all the others who contributed to the success of this engagement.***



Adopted by the Information Services Policy Board (ISPB)
Office of the CIO — January 7, 2002

# Appendices

- Linking the State's Business and IT Maxims
- Details of the Endeavors, Programs & Projects
- Detailed "Bricks"
- Glossary of Terms



Adopted by the Information Services Policy Board (ISPB)
Office of the CIO — January 7, 2002

# Linking the State's Business and IT Maxims

***From a combination of the IT vision, IT strategies, business maxims, agency-provided IT maxims through the questionnaires, and industry best practices, Gartner derived IT maxims to support the State's business maxims:***

| Business Maxims | IT Category | Primary IT Maxims | IT Maxims Categories |
|---|---|---|---|
| • Streamline processes to improve efficiencies | Applications | • *Purchase "off-the-shelf" applications if they provide cost-beneficial and required services instead of using custom development.* | ✔ ***Applications*** |
| | Infrastructure | • *Implement a standardized State-wide IT architecture that considers the uniqueness of Agencies and is maintained to leverage similar technologies across the Agencies.* | ✔ ***Infrastructure*** |
| | Data | • Incorporate transparency and consistency into data design across the State to provide our constituents with easily accessible data. | |
| • Meet constituent expectations for quality at reasonable cost while maintaining confidentiality | Management | • *Use IT to support business requirements and to achieve cost reduction through more effective and efficient use of IT resources.* | ✔ ***Management*** |
| | Security | • *Implement security policies and technologies to maintain confidentiality of constituent information.* | ✔ ***Security*** |
| | Data | • *Maintain a comprehensive data directory of the most commonly used elements (name, address, telephone #) as a foundation for object-oriented programming for large-scale development efforts and to promote rapid turnaround in smaller system development efforts.* | |

***Note:*** *IT maxims that apply to more than one business maxim are italicized*

✔ Identifies a Primary IT Maxims Category



Adopted by the Information Services Policy Board (ISPB)
Office of the CIO — January 7, 2002

# Linking the State's Business and IT Maxims *(Cont'd)*

| Business Maxims | IT Category | Primary IT Maxims | IT Maxims Categories |
|---|---|---|---|
| • Make the constituents' service selection as easy as possible | Web | • Create easily navigable/user friendly web sites that are compliant with accessibility regulations. | ✔ ***Web*** ✔ ***Applications*** |
| | Web | • *Implement consistent and transparent technologies to ensure easy constituent entry points and access to data.* | |
| | Applications | • *Acquire or develop applications in such a way as to facilitate user access by Web browser.* | |
| • Manage our knowledge base to maximize insight and re-use | Data | • Promote availability of an integrated view of constituents' non-confidential information across the State. | ✔ ***Data*** ✔ ***Security*** |
| | Data | • *Maintain a comprehensive data directory of the most commonly used elements (name, address, telephone #) as a foundation for object-oriented programming for large-scale development efforts and to promote rapid turnaround in smaller system development efforts.* | |
| | Security | • *Implement security policies and technologies to maintain confidentiality of constituent information.* | |
| | Infrastructure | • Maintain a reliable IT infrastructure with mechanisms to facilitate timely problem resolution in the event of an outage, congestion, or other problem. | |

***Note:*** *IT maxims that apply to more than one business maxim are italicized*

✔ Identifies a Primary IT Maxims Category



Adopted by the Information Services Policy Board (ISPB)
Office of the CIO — January 7, 2002

# Linking the State's Business and IT Maxims *(Cont'd)*

| Business Maxims | IT Category | Primary IT Maxims | IT Maxims Categories |
|---|---|---|---|
| • Flexibility to respond to new service needs | Infrastructure | • *Support and work towards implementing a shared or common IT infrastructure where there is no strategic reason justifying differentiation.* | ✔ ***Infrastructure*** |
| | Web | • *Implement systems to provide a foundation upon which web-based services can be added without major modifications.* | ✔ ***Web*** |
| | Applications | • *Acquire or develop applications in such a way as to facilitate user access by Web browser.* | ✔ ***Applications*** |
| | Applications | • *Implement an application architecture that enables IT to quickly deliver and upgrade strategic computer applications. Proprietary frameworks should be avoided or contained.* | |
| • Maintain a high-level of professional and technical expertise. Attract and retain high-caliber staff committed to our vision of one State enterprise | Management | • *Develop training programs and clear career paths for all IT staff, encouraging education on emerging technologies.* | ✔ ***Management*** |
| | Management | • *Incorporate an IT knowledge sharing/transfer program across agencies that will reduce redundant effort, encourage cross-training of individuals, and exploit centers of expertise.* | |
| | Infrastructure | • *Implement a desktop computer "tool box" that enables Agencies to easily collaborate on virtual system-wide teams without any specific knowledge of other team members' desktop environment.* | |

***Note:*** *IT maxims that apply to more than one business maxim are italicized*

✔ Identifies a Primary IT Maxims Category



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Office of the CIO — January 7, 2002

# Linking the State's Business and IT Maxims *(Cont'd)*

| Business Maxims | IT Category | Primary IT Maxims | IT Maxims Categories |
|---|---|---|---|
| • Identify and facilitate the sharing and movement of talented people and create an environment that maximizes intellectual productivity | Management | • Foster a business-smart IT organization and an IT-smart business operation. | ✔ ***Management*** ✔ ***Infrastructure*** |
| | Management | • *Incorporate an IT knowledge sharing/transfer program across agencies that will reduce redundant effort, encourage cross-training of individuals, and exploit centers of expertise.* | |
| | Infrastructure | • *Implement a desktop computer "tool box" that enables Agencies to easily collaborate on virtual system-wide teams without any specific knowledge of other team members' desktop environment.* | |
| | Web | • Exploit intranet technologies that enable employees to communicate, access reference data, follow up on open issues, order goods or services, and provide other intra-government services. | |
| • Leverage the synergies throughout the State and foster/implement culture of information sharing | Infrastructure | • *Support and work toward implementing a shared or common IT infrastructure where there is no strategic reason to justify differentiation.* | ✔ ***Infrastructure*** ✔ ***Applications*** |
| | Infrastructure | • Maintain a messaging/e-mail infrastructure that facilitates our communication and collaboration with the world. | |
| | Applications | • *Purchase "off-the-shelf" applications if they provide cost-beneficial and required services instead of using custom development.* | |
| | Applications | • Allow sharing of functions and data between applications by bridging different technical platforms. | |
| | Security | • *Maintain sufficient computer forensic expertise to combat specific threats and to investigate and prosecute specific criminal acts.* | |

***Note:*** *IT maxims that apply to more than one business maxim are italicized*

✔ Identifies a Primary IT Maxims Category



Adopted by the Information Services Policy Board (ISPB)
Office of the CIO — January 7, 2002

# Linking the State's Business and IT Maxims *(Cont'd)*

| Business Maxims | IT Category | Primary IT Maxims | IT Maxims Categories |
|---|---|---|---|
| • Ensure that the business processes are compliant with security and privacy requirements | Security | • *Implement security policies and technologies to maintain confidentiality of constituent information.* | ✔ ***Security*** |
| | Security | • *Maintain sufficient computer forensic expertise to combat specific threats and to investigate and prosecute specific criminal acts.* | |
| • Ensure that access to government services is available to all constituents | Web | • Develop a secure, robust Internet infrastructure capable of initiating, confirming and executing all manner of business transactions to ensure current and future customer constituencies can do business with the State on the Internet. | ✔ ***Web*** ✔ ***Applications*** |
| | Web | • *Implement consistent and transparent technologies to ensure easy constituent entry points and access to data.* | |
| | Applications | • *Implement an application architecture that enables IT to quickly deliver and upgrade strategic computer applications. Proprietary frameworks should be avoided or contained.* | |
| | Applications | • Maintain an applications and technology infrastructure that exploits an architecture that enables 24x7 technical and business operations. | |

***Note:*** *IT maxims that apply to more than one business maxim are italicized*

✔ Identifies a Primary IT Maxims Category



Adopted by the Information Services Policy Board (ISPB)
Office of the CIO — January 7, 2002

# Linking the State's Business and IT Maxims *(Cont'd)*

| Business Maxims | IT Category | Primary IT Maxims | IT Maxims Categories |
|---|---|---|---|
| • Drive economies of scale through shared best practice | Management | • *Use IT to support business requirements and to achieve cost reductions through more effective and efficient use of IT resources.* | ✔ ***Management*** ✔ ***Infrastructure*** |
| | Infrastructure | • Ensure data and voice network design and implementation is cost effective and scalable, and supportive of new applications. | |
| | Infrastructure | • *Support and work toward implementing a shared or common IT infrastructure where there is no strategic reason to justify differentiation.* | |
| • Rapid development of new services | Applications | • *Implement an application architecture that enables IT to quickly deliver and upgrade strategic computer applications. Proprietary frameworks should be avoided or contained.* | ✔ ***Applications*** ✔ ***Infrastructure*** ✔ ***Web*** |
| | Infrastructure | • *Implement a standardized State-wide IT architecture that considers the uniqueness of Agencies and is maintained to leverage similar technologies across the agencies.* | |
| | Web | • *Implement systems to provide a foundation upon which net services can be added without major modifications* | |
| | Management | • *Develop training programs and clear career paths for all IT staff, encouraging education on emerging technologies.* | |

***Note:*** *IT maxims that apply to more than one business maxim are italicized*

✔ Identifies a Primary IT Maxims Category



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Office of the CIO — January 7, 2002

# Details of Endeavors, Programs & Projects

# Details of Endeavors, Programs and Projects

## State Wide Area Network (WAN)

**Owner:** BIS
**Type:** Endeavor
**Ranking: #1**

**Description of Project:**

The Statewide data network has grown exponentially over the last several years. The integration of data network services into daily business operations of Maine State Government will continue to raise the level of expectations relative to network performance and capacity. The State Wide Area Network must be positioned to accept the challenges of increased reliance, especially in support of those initiatives pertaining to electronic access to government services.

The focus of this project is to provide a network strategy that incorporates future requirements. This planning must include objectives to support optimal network configuration and capacity management, as well as those measures to ensure daily operational availability and reliability.

Current projects, from the tactical perspective, support the migration of the state's wide area network from the current bridged environment to a routed environment. This migration will include several infrastructure enhancements, as well as the implementation of the Dynamic Host Configuration Protocol (DHCP) as a measure to more efficiently utilize resources. This will facilitate growth in the network as well as improve reliability, availability and serviceability of the network.

The larger scope of this project includes (but is not limited to) network security architecture and policies, monitoring of performance, and intrusion detection.


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Office of the CIO — January 7, 2002

# Details of Endeavors, Programs and Projects

## Health Insurance Portability &Accountability Act (HIPAA)

**Owner:** CIO's Office
**Type:** Program
**Ranking: #2**

**Description of Project:**

The HIPAA was enacted as Public Law 104-191 on August 21, 1996 and included an Administrative Simplification Subtitle to:

- Improve the efficiency and effectiveness of the health care system by standardizing the electronic exchange of data
- Protect security and privacy of individually identifiable health information

The Federal Government, under the Department of Health and Human Services (DHHS), publishes HIPAA standards that require compliance within 24 months of the effective date of the ruling. The Transaction and Code Sets Ruling, standardizing the electronic exchange of data, requires compliance by October 16, 2003. The Privacy Rule requires compliance by April 14, 2003. The Security Rule is expected to be published by January 2002, which will require compliance by January 2004.

An initial impact assessment of all agencies within the Executive Branch, has determined that HIPAA will impact DAFS, DHS, BDS, DOE, Corrections, PFR, DDVEM, and the State Archives. A detailed assessment within each of these Agencies, relative to the impact of each specific rule, will identify the remediation requirements that will support the compliance deadlines.

The Office of Civil Rights within the DHHS has been designated to enforce HIPAA. Significant financial penalties are established and will be imposed on entities found non-compliant with HIPAA.

## Accessibility

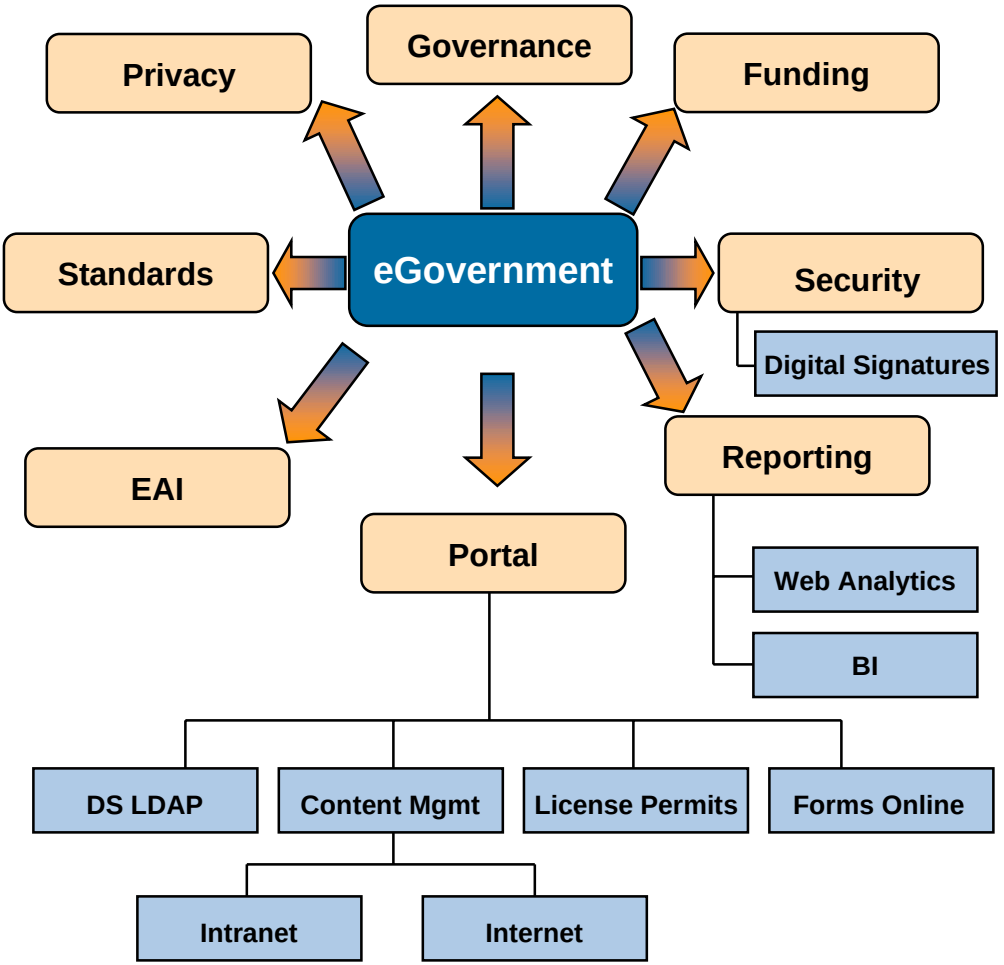
**Owner:** CIO's Office
**Type:** Endeavor
**Ranking: #3**

**Description of Project:**

The Information Services Policy Board adopted a resolution in January 1998 that fully supported the Americans with Disabilities Act (ADA) regarding reasonable accommodations in the workplace and recognized the State's commitment to meeting the needs of its employees and citizens with disabilities. The purpose of this project is to ensure equal accessibility of technology to all Maine citizens, therefore meeting the State's commitment outlined in the 1998 resolution. The Accessibility Committee formed at the time of the resolution will lead the majority of the efforts which will include, but not be limited to, the following:

- Education of IT development staff as to how best to build accessibility into products
- Testing of technology (hardware and software) before it is deployed
- Development of improved procurement processes related to accessibility
- Ongoing research into assistive technology products
- Regular reporting of progress made

# Details of Endeavors, Programs and Projects (Cont'd)




DS = directory services
BI = Business Intelligence
LDAP - Lightweight Directory Access Protocol

## E-Government

**Owner:** ISPB E-Government Committee
**Type:** Endeavor
**Ranking: #4**
**Description of Project:**

The eGovernment project objectives focus on the principle areas required for successful implementation. The eGov project will be a specific project with its own scope and objectives, but will also serve as the launch and monitoring point for smaller individual projects.

eGov will be a transitional project and will occur in a number of different phases over a number of years.

Core components of the eGov project include standards, governance, funding,security and privacy.

Projects that fall under eGov are enterprise application integration (EAI), portal architecture and reporting.

***A very high level of sponsorship is required for E-Gov to ensure that anticipated funding and governance issues are manageable.***

*Current InforME projects contributing to eGovernment include:*

1 – Public Interface to Business Answers System (for DECD)
2 – Online/Telephone payment of Traffic Tickets (for Judicial Branch)
3 – Online filing of UCC Liens (for Secretary of State)
4 – Online/Interactive Forms Tool (for Statewide use)
5 – Vanity Plate Reservation/Purchase (for Secretary of State)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# Details of Endeavors, Programs and Projects (Cont'd)

## Enterprise Directory Services

**Owner:** BIS
**Type:** Endeavor
**Ranking: #5**

**Description of Project:**

Directory services are becoming a critical element in many of the technologies currently being used by the State. Traditionally, directory services have been used for email lists and file and print services. The role of directory services will expand to include various application and user authentication roles.

There are directory service initiatives currently underway. These initiatives must be expanded in scope to include an architecture suited for eGov, best practices for tree design across agencies, and integration strategies with application servers and web portals.

## Business Continuity Planning/ Disaster Recovery

**Owner:** Department of Defense,Veterans and Emergency Management/CIO
**Type:** Endeavor
**Ranking: #6**

**Description of Project:**

Business continuity planning is the mitigation planning for business disruption including, but not limited to, the categories of natural disasters; hardware and communications failures; internal or external sabotage or acts of terrorism; and the failures of supply chain and affiliate organizations.

A business continuity strategy, therefore, is a high-value, but high-maintenance, proposition. Business continuity embraces a broad spectrum of technologies—old and new, paper-based and electronic, manual and automated, individual and integrated. The key challenge of business continuity preparation is not technology, however, but the internal marketing "business" aspects that begin at the foundation level of any project and continue throughout its life cycle—justification, executive buy-in, broad organizational support, and governance and politics.


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# Details of Endeavors, Programs and Projects (Cont'd)

## Enterprise Resource Planning—ERP (MFASIS System)

**Owner:** MFASIS Steering committee/ DAFS
**Type:** Endeavor
**Ranking: #7**

**Description of Project:**

An ERP provides the capability to enhance business processes, internal controls, and integration of functionality across all agencies. Under the umbrella of an ERP, the three primary production systems are Budgeting, Accounting and Human Resource Management. The MFASIS Steering Committee provides oversight to the requirements and development of the ERP that serves Maine State Government.

***Budget***

The principle oversight of this project is the Budget Officer, who is a member of the MFASIS Steering Committee, using BIS resources. The MFASIS Steering Committee provides periodic input and support as requested for the development of a Budget System that serves Maine State Government. The Budget System is currently under development.

***Accounting***

The MFASIS Steering Committee provides oversight to the requirements and development of an enhanced Accounting System that serves Maine State Government. This will provide enhancement to the three primary functions of accounting, procurement and capital management. These enhancements will improve the work process flow from procurement through invoice payment and subsequent fund allocation.

***Human Resources Management System***

The MFASIS Steering Committee provides oversight to the requirements and development of an enhanced Human Resources (HR) Management System that serves Maine State Government. This will provide enhancements to the three primary functions of HR, payroll, and time and attendance management (A Time and Attendance Management System (TAMS) is currently under development). The enhanced HR Management System will include work flow enablement to cover functions from recruitment through placement, benefit management, promotion, training and career tracking.

## Enterprise Application Integration (EAI)

**Owner:** ISPB/ISMG
**Type:** Endeavor
**Ranking: #8**

**Description of Project:**

Enterprise application integration will provide the technology for providing common data and common services across all agencies. EAI will also play a crucial role in the e-Gov architecture.

The EAI project objectives will include architecture, technology selection and service definitions.



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# Details of Endeavors, Programs and Projects

## Geographic Information Systems (GIS)

**Owner:** GIS Executive Council
**Type:** Endeavor
**Ranking: #9**

**Description of Projects:**

***Project I* - Making GIS More Accessible and Easier to Use:**

Maine citizens and local government are not benefiting from the GIS investments made by Maine State agencies. In addition, the State is not prepared to accept and integrate important local data into the State's GIS clearinghouse. The project will increase system capacity and extend State capabilities to existing GIS regional service centers to form the foundation for widespread use of existing data resources and technology and to permit the addition of locally generated spatial data into the state's clearinghouse. Resources for coordination and technical support will be increased to support this initiative. The project will expedite the addition of all State agency GIS data into the State's clearinghouse and establish standards and procedures to ensure that all governmental GIS data, state and local, is available through the clearinghouse. MEGIS web services architecture will be developed to facilitate browser-based access to the clearinghouse resources and development of client side applications.

***Project II* - Developing Master Road Centerline GIS Database:**

Due to program requirements and limitations of past GIS technology, the State currently maintains two versions of a road centerline GIS database. The project combines the two layers to produce a single master road centerline file that can be more effectively maintained and used. Towns that did not readdress to support E911 will require additional effort to produce standard product.

## Records Management/Archives

**Owner:** Secretary of State/BIS
**Type:** Endeavor
**Ranking: #10**

**Description of Project:**

Review current archival procedures to determine if legal requirements are being met, as well as to ensure that data/documents requested are readily available. If findings warrant, develop a gap analysis and recommendations to improve process and deliver this information to all impacted Agencies.

## Knowledge Management/Sharing

**Owner:** CIO/ISPB
**Type:** Endeavor
**Ranking: #11**

**Description of Project:**

This will incorporate IT knowledge sharing/transfer across all Agencies to reduce redundant effort, encourage cross-training of individuals, and exploit centers of expertise. Additionally, it includes educating IT and business leaders on integration of emerging technology to promote process improvements.


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# Details of Endeavors, Programs and Projects (Cont'd)

## IT Employee Retention/Recruitment

**Owner:** CIO's Office
**Type:** Endeavor
**Ranking: #12**

**Description of Project:**

Attract skilled IT professionals to public sector positions, as well as to retain and continually improve skills of current IT staff. This project will examine the factors that affect employee retention and will provide a strategy and practices that can be applied by all agencies.

## Network Services

**Owner:** BIS
**Type:** Endeavor/Program
**Ranking: #13**

**Description of Project:**

Tremendous network growth and increased reliance on network services are dictating new levels of network reliability, performance and scalability. A number of initiatives are underway. The focus of this project is to provide a network strategy that looks at future network requirements.

## Regional IT Support

**Owner:** ISPB/ISMG
**Type:** Program
**Ranking: #14**

**Description of Project:**

Efficient IT support in the regional offices is becoming more important to effective operation of the agencies. A regional IT support strategy would focus on developing collaborative programs for providing multiple levels of IT support.

## Integrated Development Environments (IDE)

**Owner:** ISPB/ISMG
**Type:** Program
**Ranking: #15**

**Description of Project:**

The State of Maine is and will be strategically utilizing application servers to deploy internal and external applications. IDEs provide the development environments for application servers. Agreeing on a standard IDE will have the following benefits:

- Lower overall licensing costs
- Standardized tools that extend the IDE (SCCS, profilers…)
- Development staff will only have to be familiar with a single product.



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# Details of Endeavors, Programs and Projects (Cont'd)

## Wireless (Voice/Data)

**Owner:** BIS
**Type:** Program
**Ranking: #16**

**Description of Project:**

A wireless strategy is required by the State that looks at the wireless requirements of the agencies and provides a wireless strategy and roadmap for wireless services throughout the State.

# Detailed “Bricks”

# Data Services

| DBMS | Data Warehouse | Decision Support Tools |
|---|---|---|
| • Database Technologies<br>• DBMS Access Methods | • Data Marts/Warehouse | • Business Intelligence Tools<br>• Reporting Tools |

# Application Services

| Programming Languages | Applications Dev't. Environment | Collaborative Systems | Application Architectures | GIS |
|---|---|---|---|---|
| • Server Side Programming Languages<br>• Client Side Programming Languages<br>• Integrated Development Environment (IDE) | • DB Modeling Tools<br>• Repository<br>• Application Development Methodology<br>• QA Tools | • Groupware & Messaging<br>• Document Management | • Component Model<br>• Application Servers<br>• Thin Client Servers | • GIS Tools |

# Integration Services

**Middleware**

- Platform, Communication, Integration

# Computing Infrastructure

**Operating Systems and Hardware**

- Desktop Applications
- Desktop Operating System
- Mobile - Laptop, Wireless, PDA
- Application/Data Server
- Network Operating Systems
- Printers

**Web Infrastructure Environment**

- Browser (Internal Users)
- Web Portal
- Web Server
- Content Mgmt/ Development Tools
- Directory Server
- Publishing Formats

**Storage**

- Storage Area Networks
- Tape
- Optical/ CD
- RAID High Availability

**Systems Management**

- Network Systems Management
- IP Administration

**Topology**

- Application (Distributed) Topology



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# Network Services

| LAN | WAN | Access Technologies | Voice Technologies | Network Hardware |
|---|---|---|---|---|
| • LAN Protocols<br>• LAN Wiring<br>• LAN Topology | • WAN Transport<br>• WAN Protocols | • Remote Access Users<br>• Terminal Emulators/Gateways<br>• Wireless - LAN/WAN<br>• Voice/Data Convergence<br>• Accessibility<br>• Video Conferencing | • Voice/ Data VoIP<br>• Voice/Data Voice Mail | • Hubs/ Routers Vendors |

# Security Services

| Authorization | Authentication | Network Security | Physical Security | Other Security Services |
|---|---|---|---|---|
| • Authorization Directories | • Internal & External Authentication<br>• PKI | • Network - Firewalls<br>• Internet - Firewalls | • Data Center | • Intrusion Detection<br>• Virus Protection |



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# Glossary of Terms

# Glossary of Terminology

***Application Architecture:*** Defines the relationships between application components such as presentation, logic and data storage.

***Architectural Model:*** A graphical (two- or three-dimensional) representation of an architecture.

***Architecture:*** The vision, including the topology, components and specifications, for forming IT solutions to business needs. Architecture is comprised of a product, processes and organization.

***Data Architecture:*** Defines the relationships between data components such as entities and attributes.

***Domains:*** Topics or subject areas of architecture (such as governance, application, data, infrastructure, and security).

***E-government:*** The transformation of public sector internal and external relationships through net-enabled operations, IT and communications to optimize government service delivery, constituency participation and governance.

***Endeavors:*** An endeavor coordinates a variety of programs and projects to create a new enterprise. Often done for survival and to meet the citizens' needs in a timely, effective, and efficient manner. An Endeavor can last for many years and requires creative leadership at the very top. Examples of endeavors include e-government, GIS, WAN.

***Enterprise Architecture:*** An IT architecture that focuses upon only those computing requirements that are mission-critical to the enterprise.

***Evergreening Process:*** The technology planning process must be founded on the assumption that IT architecture will change with the passage of time. Evolution (Evergreening) of the IT architecture is the key to managing technology introduction/retirement, and also serves to maintain the linkage to the needs of the business over time.

***Infrastructure Architecture:*** Defines the relationships between infrastructure components such as servers, networks, end user devices and system management.

***IT Architecture:*** A vision for how information technology will be assembled to solve business problems. It usually includes multiple sub-architectures for Application, Data and Infrastructure Domains. It often defines architecture for security and may include management and governance architectures.

***Maxims:*** Guiding principles to an architecture strategy.

***Programs:*** Programs are used to deliver a strategic business change. Programs identify, prioritize and link initiatives, many of which will be projects, but not all. The management focus in this case is on efficiently attaining corporate benefits from the new strategy. A program also provides the right environment for the change to happen, particularly in terms of the staff members' attitudes and behavior. The nature of a program means longer time frames. Examples of programs include developing a major Web presence, implementing ERP.

***Projects :*** Projects are used when a specific outcome is required in a set time frame. Projects have clear and easily defined benefits and return on investment (ROI), so management focus is on minimizing risk and cost. Projects are generally managed within boundaries (such as departments) and have an easily identified and defined scope. Examples of projects include implementing an intranet, a fleet management system.

***Security Architecture:*** Defines the relationships between security components such as monitoring, detection and suppression components.

***Stakeholder:*** Stakeholders include all State agency representatives, the executive branch, and representatives from all State offices.



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